

First Annual Report

of the

**Good Neighbor
Environmental Board**

A Presidential and Congressional Advisory Committee on
U.S.-Mexico Border Environmental and Infrastructure Issues

October 1995

EXECUTIVE SUMMARY

The Good Neighbor Environmental Board was created by the Enterprise for the Americas Initiative Act of 1992 to advise the President and the Congress concerning environmental and infrastructure needs within the states contiguous to Mexico. The statute requires the Board to submit an annual report to the President and the Congress. This is the Board's first annual report.

FINDINGS

The Board has made the following findings, which we strongly recommend be used as the basis for the development and implementation of border programs:

- Border environmental issues cannot be separated from other closely related topics, such as preservation of natural resources, health, housing and transportation.
- A long-term, comprehensive, integrated and binational approach is the only satisfactory method to achieve a sustainable environment and economy in the border region.
- Border environmental issues can only be solved through binational cooperation with the appropriate Mexican federal, state and local authorities and communities.
- Pollution *prevention* must be emphasized to minimize long-term environmental and economic degradation in the region.
- Community capacity-building is key to sustaining efforts to resolve both domestic and binational environmental problems.
- Better coordination among governmental agencies at all levels is needed to make more effective use of limited public resources.
- Encouraging public-private partnerships

promotes the most cost-effective use of limited public resources and creates incentives for private sector compliance and cooperation.

- Native American community representatives must be included in border environmental, health and transportation planning to ensure equity in the allocation of funds, projects and other resources.
- Binational cooperation requires that local communities and Mexican agencies have ready access to reliable planning data.

SUMMARY RECOMMENDATIONS

The following is a summary of the Board's recommendations for actions needed in the short-term. More detailed discussion of these and longer-term recommendations are contained in the body of this report, beginning on page five.

- **The development of the new binational Border XXI environmental plan should involve much greater community input, closer coordination of federal and state government programs and resources, application of sustainable development criteria, and should focus on pollution prevention, remediation, public health, and infrastructure development.**
- **The availability of, and community access to, information about border conditions, needs, and available government assistance programs should be improved. Specific efforts should include a comprehensive inventory of conditions, needs, programs and resources; "community right to know" programs to help citizens obtain access to environmental and health data; and a federal-state-local clearinghouse network to provide more rapid transfer of environmental and health data, research and resources information among all levels of government and to local community groups.**
- **Training should be provided to develop and empower community leaders who can continue to build needed local capacity to address problems in a cross-border context.**
- **The U.S. (and Mexico) should focus on the water and wastewater sectors as most critical for improvement of environmental quality, health and standards of living on both sides of the U.S.-Mexico border.**

Specific efforts should include expedited completion and expansion of currently funded wastewater treatment facilities and sewer lines; development of a comprehensive, binational priority list of wastewater and drinking water treatment construction needs; continuing focus by the Border Environment Cooperation Commission (BECC) and the North American Development Bank (NADBank) on these sectors; new mechanisms to permit federal assistance to projects that are partially privately funded; and development of an integrated, bilateral strategy for the protection of

shared water resources.

- **Infrastructure efforts should be focused on colonias and small communities to ensure that the poorest neighborhoods have the necessary infrastructure to profit from increased economic opportunities created by the North American Free Trade Agreement (NAFTA).**

Both national governments should: continue federal grant and low-cost loan assistance for the next ten years (at least) to impoverished border communities; accelerate the approval and distribution process for currently available federal funding assistance for residential water and wastewater hookups and fixtures assistance in the colonias in Texas and New Mexico; provide financial assistance and incentives for upgrading substandard housing in the colonias; and work closely with state and local governments to establish mechanisms for the incorporation and "formalization" of the colonias' legal and institutional status.

- **Efforts by federal and state agencies on both sides of the border should be accelerated to improve notification and monitoring processes for the cross-border transportation of hazardous materials, and to establish more effective joint emergency response capabilities for dealing with hazardous waste and hazardous materials accidents occurring on truck and rail routes in the border region.**
- **A comprehensive, binational cross-border transportation planning process should be developed. In the mean-time, states should be encouraged to develop cross-border transportation authorities to guide state transportation investments.**
- **U.S. federal agencies need to establish more effective collaboration with their**

Mexican counterparts to address the unique public health needs of border.

One option would be establishment of the recently authorized U.S.-Mexico Border Health Commission. Another option is to build on existing capacities like the El Paso Field Office of the Pan American Health Organization and its Secretariat role for the U.S.-Mexico Border Health Association, which plays a key role in promoting health activities through border binational health councils.

Federal agencies also need to take steps to ensure the inclusion of Native American community representatives in border public health planning, particularly in light of perceived systematic exclusion from such decision-making.

More effective border environmental and health surveillance and training programs are needed. Community-based, electronic, binational, environmental and health surveillance systems should be strengthened and expanded, with the goals of establishing linkages and strengthening preventive interventions. Training is needed especially in surveillance, epidemiology, and environmental health.

Federal and state agencies, in cooperation with local agencies and organizations, should move quickly to implement a joint tuberculosis control program at the border.

The U.S. government should continue to support the development and adoption of new and appropriate environmental technologies, both in manufacturing and infrastructure projects. This support should be implemented in close cooperation with the private sectors of both countries, and should include the use of incentives to promote environmentally sound practices, especially for small businesses.

INTRODUCTION

The Good Neighbor Environmental Board was created by the Enterprise for the Americas Initiative Act of 1992 (7 U.S. Code Section 5404) to advise the President and the Congress concerning environmental and infrastructure needs within the States contiguous to Mexico. The statute requires the Board to submit an annual report to the President and the Congress. This is the Board's first annual report.

The Act requires that Board membership include representatives from appropriate U.S. Government agencies, from the governments of Arizona, California, New Mexico and Texas, and from private organizations, including community development, academic, health, environmental, and other nongovernmental entities with expertise on environmental and infrastructure problems along the southwest border. A list of members is provided in Appendix A.

A Presidential Executive Order delegates implementation authority to the Administrator of the Environmental Protection Agency (EPA). The Board operates under the federal Advisory Committee Act and meets at least twice annually at locations along the U.S.-Mexico border. The Board has met three times: September, 1994 in McAllen, Texas; January, 1995 in San Diego, California; and June, 1995 in Tucson, Arizona.

ROLE OF THE GOOD NEIGHBOR ENVIRONMENTAL BOARD

The Board envisions its role as:

- An advisor to the U.S. Federal Government and Congress regarding infrastructure, public health, environmental and sustainable development issues in the border region.
- An advocate and representative for U.S. residents of the border region.
- Promoting "sustainable development" for the border region by linking environment, infrastructure, public health, and economic development analyses; and promoting the coordination of federal activities in these areas.
- Encouraging the development, use and dissemination to Mexico of environmental technologies and financing mechanisms appropriate to the unique circumstances of the border region.

GUIDELINES

The Board recommends that the following guidelines

be used to guide the development and implementation of border programs:

- Expand the definition of border “environment” to include such areas as natural resources, health, housing, transportation and other infrastructure concerns;
- Promote a long-term, comprehensive, integrated and regional approach to planning needed to sustain a healthy environment and economy;
- Place and understand border environmental problems in the appropriate domestic and binational context;
- Promote pollution prevention in concert with enforcement officials and community stakeholders;
- Promote community capacity-building, particularly in colonias, smaller communities and unincorporated rural areas of the border region;
- Help coordinate and make maximum use of limited government resources at all levels;
- Encourage public-private partnerships and privatization;
- Ensure that planning, implementation and evaluation address the needs of Native Americans and other populations that might be disproportionately affected by environmental contamination;
- Increase the accessibility and use by border residents of relevant planning data and information.

PROFILE OF THE BORDER REGION

As a region, the U.S.-Mexico border area faces a number of distinctive environmental, demographic and economic challenges:

- An estimated 9 million people live in the 2000-mile border region, most of them in 14 "sister cities." The region's population is expected to grow to more than 10.3 million persons by the year 2003, with 45 percent projected to reside in Mexico, and 55 percent in the United States.
- The border region is generally characterized by low incomes and inadequate infrastructure and services.
- About one-fifth of the population on the U.S. side currently lives at or below the poverty line compared with a national average of 12.4 percent.
- Texas has more than 1200 documented *colonias* (i.e., unincorporated settlements lacking adequate infrastructure for drinking water, wastewater treatment, and/or solid waste disposal) and there are several hundred more in Arizona and New Mexico. Approximately 13 percent of the portion of the region's population living within Texas lacks adequate plumbing, compared with 5.4 percent in the U.S. as a whole.
- Rates of gastrointestinal diseases in the region are significantly higher than elsewhere in the United States. Morbidity rates for Hepatitis A and tuberculosis are much higher than the respective national rates. High rates of death due to congenital anomalies are found in certain border counties in Texas.

- More than 32 million tons of toxic waste are

produced annually by 150 industrial facilities in the region.

- Contamination from the region has damaged fishing and shellfish industries in the Gulf of Mexico.
- El Paso has some of the worst air quality in the United States.
- There are 460 endangered species in the region.

Superimposed on these conditions is an increase in regional economic activity spurred by the North American Free Trade Agreement (NAFTA) and the resulting liberalization of trade between the U.S. and Mexico. In 1994, overall trade between Mexico and the U.S. surpassed \$ 100 billion for the first time in history, with exports from the four U.S. border states to Mexico increasing by 15 percent to \$34 billion.

Furthermore, through its environmental side agreement, NAFTA established the Border Environment Cooperation Commission (BECC) and North American Development Bank (NADBank) to prioritize and provide financing for water, wastewater, solid waste, and other related environmental infrastructure projects.

Another result of NAFTA has been an increase in federal attention to the region. Numerous federal programs now exist to address environmental, health, transportation, economic development, housing and natural resources needs.

GENERAL ISSUES

The border region faces complex, interrelated problems that often transcend political boundaries and are occurring against a backdrop of dwindling governmental resources. To address these issues, the Board believes new approaches are called for, characterized by unprecedented levels of binational cooperation, interagency coordination, public-private sector partnerships, adequate and accessible information, and citizen empowerment and participation.

We recommend that the Border XXI planning **process be utilized as a coordinating mechanism for binational, federal and state level efforts in the areas of pollution prevention, remediation, public health and infrastructure development.**

The Board believes it is essential to address border problems related to the environment, natural resources, health, housing, transportation and other infrastructure needs through comprehensive, binational programs. The Board supports development of a new border environmental plan through the Border XXI planning process.

The Border XXI plan should: (1) be more comprehensive than previous efforts; (2) establish short and long-term goals and objectives; (3) employ a binational, regionally-based approach for addressing transboundary issues; (4) include meaningful public participation; (5) address environmentally related public health issues; and (6) incorporate domestic components as determined by the two governments.

The Integrated Border Environmental Plan (IBEP), developed jointly by the two governments in 1992, was a reasonable start but was limited in scope and was developed with little input from border communities or state and local governments. IBEPs ambitious goals have not been implemented to any significant extent. The Board is encouraged that U.S. officials have pledged not to repeat these errors in Border XXI.

The Board has noted a tendency for federal agencies to work independently without communicating with other agencies that might be working towards the same objectives. To be effective and to make the

most efficient use of increasingly scarce governmental resources, federal activities should be coordinated with the efforts of state and local governments, non-governmental organizations, academia, businesses and residents.

The President and Congress should require all appropriate federal agencies to participate in the development of the Border XXI plan to ensure that federal resources are coordinated in an integrated fashion and problems are dealt with holistically and efficiently. Board members can assist in coordinating this interagency effort and can help with getting the public involved. The federal agency representatives on the Board have strongly endorsed the desirability of improved interagency and federal-state-local coordination, communication and leveraging of programs and resources.

To ensure meaningful public participation and acceptance, the Board strongly recommends that Border XXI incorporate substantial, continuous, and informed input from communities on both sides of the border. A public participation strategy, mutually acceptable to both nations, should be developed and implemented. Border XXI should be finalized only with the consent of affected border communities.

There is general consensus among border residents that environment-related health issues must be assigned a high priority in the development of any new border plan. Human health and environmental quality are inextricably linked. Public health concerns are heightened by the border region's demographic and economic characteristics, including the lack of planning for industrial and residential zones, difficulties in monitoring or tracking the spread of contagious diseases, the

generally lower level of ability to pay for medical care, and the lack of basic water and wastewater treatment in many Mexican border communities and U.S. colonias.

The plan should delineate planning regions that facilitate dealing with cross-border issues. The Board believes there are eight to ten regions in the border region for planning purposes and encourages early agreement on the boundaries. The Board recommends prompt initiation of environmental planning based on regional and geographical considerations, and discourages further delays pending resolution of all technical disagreements based on ecological, natural resources, climatological, political, economic and other considerations.

Recognizing that data availability, binational priorities, and resources for implementing the Border XXI plan will vary, a ranking of environmental and related issues within the region should be developed at the outset to determine priorities.

We recommend that government programs addressing similar issues be coordinated on a regional basis by interagency comprised of representatives from all relevant agencies and levels of government. Mexican counterpart institutions should be included whenever appropriate, as in the case of shared ecosystems, watersheds and air sheds.

The Board believes there are many opportunities, domestically and binationally, to capitalize on economics of scale through consolidation of facilities and services within the framework of more integrated and regional approaches to border issues. To facilitate intergovernmental coordination and make more efficient use of public sector resources, the U.S. Government should adopt regulations or modify existing laws as needed to permit the development of cooperative agreements or memoranda of understanding among multiple federal, state or local agencies.

We recommend that information gaps and accessibility be addressed as a high priority. Data on baseline environmental, economic and institutional conditions are needed to design, implement and evaluate programs. Existing data should be identified and their usefulness evaluated before collecting new data. Standards and methods for collection and analysis of data should be coordinated binationally. Information should be presented in readily comprehensible forms. Data, analyses and options should be disseminated widely to governmental decision makers, organized interest groups and affected communities generally.

There is a lack of needed information and awareness by governments, nongovernmental organizations, and, importantly, residents, on both sides of the border, concerning border area problems and ways to address these problems, limiting effective community participation and empowerment.

The Board believes that a substantial amount of published and unpublished environmental, natural resource, health and related data is available in the U.S. and in Mexico which could provide useful baseline information. National and state governments, the International Boundary and Water Commission (IBWC), universities, binational border environmental working groups, and nongovernmental organizations have developed much data that might not be entirely compatible, but could provide a considerable head start in characterizing the scope and location of both immediate and longer term problems, and in prioritizing needs.

Data should be integrated and analyzed using advanced Geographic Information System (GIS) technology. We recommend that existing and new data bases be made accessible through Internet and other wide-net systems. State and federal government agencies should help to create Internet directory nodes along the border and provide staff to help with public access. Data bases should be tied to existing geographic information systems for border ecosystems.

The Board encourages continuing support for the U.S. Department of Commerce Telecommunications and Infrastructure Assistance Program that provides matching grants to help spread information technology into communities. The Board feels that the continuing availability of these grants to border communities and nongovernmental organizations can significantly assist in the development of overall environmental management capacity in the border region.

The plan should delineate planning regions that facilitate dealing with cross-border issues. The Board believes there are eight to ten regions in the border region for planning purposes and encourages early agreement on the boundaries. The Board recommends prompt initiation of environmental planning based on regional and geographical considerations, and discourages further delays pending resolution of all technical disagreements based on ecological, natural resources, climatological, political, economic and other considerations.

Recognizing that data availability, binational priorities, and resources for implementing the Border XXI plan will vary, a ranking of environmental and related issues within the region should be developed at the outset to determine priorities.

We recommend that government programs addressing similar issues be coordinated on a regional basis by interagency bodies comprised of representatives from all relevant agencies and levels of government. Mexican counterpart institutions should be included whenever appropriate, as in the case of shared ecosystems, watersheds and air sheds.

The Board believes there are many opportunities, domestically and binationally, to capitalize on economies of scale through consolidation of facilities and services within the framework of more integrated and regional approaches to border issues. To facilitate intergovernmental coordination and make more efficient use of public sector resources,

the U.S. Government should adopt regulations or modify existing laws as needed to permit the development of cooperative agreements or memoranda of understanding among multiple federal, state or local agencies.

We recommend that information gaps and accessibility be addressed as a high priority. Data on baseline environmental, economic and institutional conditions are needed to design, implement and evaluate programs. Existing data should be identified and their usefulness evaluated before collecting new data. Standards and methods for collection and analysis of data should be coordinated binationally. Information should be presented in readily comprehensible forms. Data, analyses and options should be disseminated widely to governmental decision makers, organized interest groups and affected communities generally.

There is a lack of needed information and awareness by governments, nongovernmental organizations, and, importantly, residents, on both sides of the border, concerning border area problems and ways to address these problems, limiting effective community participation and empowerment. The Board believes that a substantial amount of published and unpublished environmental, natural resource, health and related data is available in the U.S. and in Mexico which could provide useful baseline information. National and state governments, the International Boundary and Water Commission (IBWC), universities, binational border environmental working groups, and nongovernmental organizations have developed much data that might not be entirely compatible, but could provide a considerable head start in characterizing the scope and location of both immediate and longer term problems, and in prioritizing needs.

Data should be integrated and analyzed using advanced Geographic Information System (GIS) technology. We recommend that existing and new data bases be made accessible through Internet and other wide-net systems. State and federal government agencies should help to create Internet

directory nodes along the border and provide staff to help with public access. Data bases should be tied to existing geographic information systems for border ecosystems.

The Board encourages continuing support for the U.S. Department of Commerce Telecommunications and Infrastructure Assistance Program that provides matching grants to help spread information technology into communities. The Board feels that the continuing availability of these grants to border communities and non-governmental organizations can significantly assist in the development of overall environmental management capacity in the border region.

The Board has received information from most of the U.S. Federal departments and agencies represented on the Board concerning their border region programs and funds for the past two years. We applaud the obviously significant effort that went into compiling and presenting this information, in most cases for the first time. All of the members of the Board believe such information will provide a very useful basis for interagency coordination, for improving allocation and leveraging of federal funds in the region, and for more effective long-term implementation of border-related programs. The Board recommends that state agencies now be asked to compile the same type of information concerning their programs and projects in the region.

We recommend that technical and leadership training be provided, in a train-the-trainer format, to develop and empower leaders who can train others and continue to build needed local capacity to address problems on an ongoing basis.

Governments, professional organizations, and national and state-level nongovernmental organizations should focus on community capacity-building as a very high priority. A cadre of trained local governmental and nongovernmental organization leaders is essential. The additional scientific, social welfare, business and governmental professionals needed on both sides of the border should, most desirably, come from, understand and

have a commitment to the region.

The *promotora* concept, used on both sides of the border, shows considerable promise in training local community leaders to teach others and in developing community-based expertise and leadership. We recommend that border governments on both sides of the border evaluate the utility of this concept and help identify and train additional *promotoras*.

We recommend that federal agencies, the states, nongovernmental organizations, and industry be provided incentives to work together towards: (1) developing educational curricula and materials that promote sustainable development; (2) providing access to computers (perhaps along the lines of Apple Corporation's "Apples for the Teacher" program); and (3) providing public and private sector funded internships, part-time jobs, and career opportunities for high school and college students in the region.

We also recommend that an expanded environmental education campaign targeted toward individuals in their formative years be developed cooperatively by each border state's departments of education and environment, the private sector and nongovernmental organizations. Border-based curricula, along with use of simple, inexpensive educational methods such as recycling contests between schools, or field trips that produce environmental benefits (e.g., Adopt a Highway) are encouraged.

For many years, citizens of border area communities (especially the sister cities) have worked together informally on common problems. National, state and tribal governments should provide encouragement, forums and recognition to expand and formalize binational community-level cooperation on transboundary issues and programs.

A significant and growing number of non-governmental groups on both sides of the border have developed information and capacity-building programs which could be of great value in the border region. Organizations such as the International City/County Management Association, National

League of Cities, Sister Cities International, Water Environment Federation, Air and Waste Management Association, American Water Works Association, and various industry groups currently offer peer-matching, technical help, information materials, access to data bases, and other types of assistance aimed at developing general and technical (including environmental) management capacity. These organizations should be encouraged to focus greater attention to the border region, and should be provided with networking assistance to help locate and share information and resources with each other.

We believe there are numerous examples of successful, innovative partnerships along the border aimed at sharing information; developing cooperative binational approaches to environmental, health, natural resources and related problems; and reducing transboundary pollution. These include government-to-government, government-industry, governmental and nongovernmental, and community-to-community arrangements. Examples include the binational program for airshed regulations in El Paso/Ciudad Juarez, the Sonoran Institute and binational International Sonoran Desert Alliance, and Matamoros-Brownsville cooperation on emergency response.

A comprehensive effort is needed to identify, document and widely publicize these and other binational success stories, emphasizing the key human, institutional and resource elements that have made them successful, and the environmental and other benefits that have resulted. We also recommend that the governments look to the U.S.-Canada border for potentially transferrable models of cooperation.

Information about model programs and projects (and the individuals and organizations responsible for their success) should be disseminated by the Internet or other communication resources, and should also be referenced in the Border XXI Plan as examples of binational approaches that work.

We recommend that assistance be provided in informing border communities about models in the

U.S. that have successfully helped small, rural and poor communities organize their own resources and identify appropriate, cost-effective solutions to infrastructure problems, and that have helped with community economic development. Very successful work has been done by the Rensselaerville Institute in New York and other states, including pilot efforts in the border region.

The Board will continue to identify models, and the members intend to reflect and commend these successes in their daily work and in subsequent annual reports.

We strongly recommend that the appropriate federal agencies assist states and communities to develop "community right-to-know" programs that make it easy for citizens to obtain access to environmental, project, financial, regulatory and health data.

Increased access to information is a critical prerequisite for citizens on both sides of the border for participating effectively in setting priorities, selecting the most feasible and comprehensive approaches to environmental, natural resource, public health and related problems, and in locating financial and technical assistance.

Border governments and residents need information prior to the time decisions are made. However, the Board reiterates the need for providing more comprehensive data, analyses and options to community residents, we also recognize that many border residents do not have familiarity with technical terms and that information should also be provided which is already analyzed, provides feasible alternatives, and is in useful formats.

It is essential that simplified "plain English" (and Spanish, where appropriate) hard copy reports be prepared and made widely available to local organizations and citizen groups, libraries, and universities, providing analyses of data, identifying the pros and cons of various options, and identifying appropriate governmental and nongovernmental contacts for further information and assistance.

We recommend that an emphasis be placed on applied research and technology transfer by academia and governments.

While there has been a considerable amount of academic research addressing border issues, too few of the results and research funds are being applied towards solving real world border problems. More research money needs to be devoted to applied research and to technology transfer by academia and governments. In addition, funding agencies should require that products intended for use in border communities be bilingual.

We recommend that public (local and state) and private sector programs be encouraged on both sides of the border that provide economic incentives for reduction, recycling and pollution prevention.

The Board encourages the development of cooperative industry/nongovernmental partnerships, such as a program in Mexico wherein waste cardboard is donated to a nonprofit organization for resale. Donor companies receive tax benefits while the nonprofit group uses the proceeds to support its local assistance programs.

INFRASTRUCTURE

For the past several years, the border region in both the U.S. and Mexico has experienced significant developmental pressures due to industrialization, immigration and population growth. Infrastructure to meet environmental, health, housing, transportation and other needs has not kept pace with this development.

In particular, many residents of colonias, small communities, rural areas and indigenous communities lack basic services such as adequate wastewater treatment, drinking water, drainage and housing. They are often also exposed to toxic substances, such as lead, as well as water-borne diseases, resulting in much higher than normal rates of illness, including such third-world diseases as cholera, typhus, and hepatitis. Substandard living conditions and a lack of sanitary facilities make it more difficult to avoid prolonged occupational or home exposure to pathogens.

The interconnection of environment, health, housing, transportation, and related problems makes it imperative that infrastructure issues be addressed comprehensively.

Short- Term Actions

- **We recommend that the U.S. focus on water and wastewater issues as a priority for improving environmental quality, health and standards of living on both sides of the border.**

We endorse the initial focus of the Border Environment Cooperation Commission (BECC) and the North American Development Bank (NADBank) on these sectors and encourage rapid action to address water and wastewater problems. Congress and the Executive Branch should also focus on developing infrastructure in these areas as a priority for improving environmental quality, and public health and welfare.

- **We recommend that U.S. (and Mexican) border states be encouraged to develop a prioritized, comprehensive and binational list of wastewater and drinking water treatment construction needs requiring grant and lowcost loan funding.**

The Board encourages the compilation of a comprehensive inventory of immediate infrastructure needs related to: wastewater treatment plants and sewage lines; potable water plants and distribution systems; individual hookups; and water drainage projects. At this time, no such inventory is available. An *integrated* infrastructure needs inventory is called for, organized by

community and border region. This can be accomplished by drawing upon and consolidating a number of already existing information sources regarding projected infrastructure needs in specific areas.

The needs inventory should be developed by, or in close coordination with, BECC and the International Boundary and Water Commission (IBWC) which have overall responsibility in these areas. The Board encourages the development of this inventory on a *binational* basis to assure coordination of needs and projects, leveraging of infrastructure investments on both sides of the border to the maximum extent possible, and to ensure that projects address cross-border pollution issues.

Prioritization of infrastructure needs is urged to provide a basis for allocating dwindling federal, state and local resources, to support a greater role by state governments in setting funding priorities, and to communicate priorities to communities competing for funding.

Inventories of other types of infrastructure needs, such as solid waste management, hazardous waste disposal sites, basic housing (especially in colonias), and health care facilities, should be assembled in the *medium* term. It is our understanding that contractors are now being selected to prepare a comprehensive survey of border transportation needs under the direction of the U.S.-Mexico Joint Working Committee for Binational Transportation Planning. The Binational Border Health Commission, if and when established, would have as its initial charge the development of a comprehensive border health needs assessment. The Board also noted the recently published *Sister Communities Health Profiles, United States-Mexico Border, 1989-1991*, which provides valuable data on the health status of the border region.

We recommend that federal grant and lowcost loan assistance be continued for at least the next ten years to impoverished border communities, especially colonias and small communities without access to bond revenues or significant sources of user fees. This is necessary to ensure that the poorest neighbor-hoods have the necessary infrastructure to profit from the increased economic opportunities created by NAFTA. According to one study (*Analysis of Environmental Infrastructure Requirements and Financing Gaps on the U.S.-Mexico Border, U.S. Council of the Mexico-U.S. Business Committee*), the estimated ten-year demand for water supply infrastructure on the U.S. side of the border will require an investment of \$501 million by the year 2003. This funding is projected to be made available through municipal bonds for larger communities (\$301 million), and through federal and state grants for colonias and smaller communities (\$200 million). These targets will be met only if grant levels are maintained at or above current levels until 2003.

With respect to wastewater treatment, the report estimates that United States border communities will require investments of \$1.475 billion over ten years to bring them up to acceptable standards, of which \$925 million should come from State Revolving Funds (SRF) loans and tax-exempt bonds, and \$550 million from other federal and state grants and loans. However, access to low-cost SRF loans and to tax-exempt bonds is generally limited to incorporated communities with a user fee base and a bond rating. Thus, the critical financing gap on the U.S. side of the border, as identified by this study, is for wastewater treatment in the unincorporated colonias and smaller communities.

With continuing federal and state financial assistance, as well as innovative local management, colonias can become "sustainable communities." In 1986, the City of Pharr, Texas decided to annex a nearby colonia of 7,000-10,000 persons. Using federal, state and local funds, the City has extended water and waste treatment services to the residents. Since 1984, Sunland Park, New Mexico, initially a colonia, has leveraged federal, state, private and community funds to provide wastewater and drinking water systems, roads and drainage, fire services, a library, a community college, and currently, a bridge border crossing.

Lack of cross-border planning and cooperation has compounded infrastructure problems. Prior to 1990, there was substantially no cross-border planning at the state or local level and-except for IBWC-no planning at the national level. In the longer term, better planning and rising incomes in the region should enable the region to tackle an increasing share of its environmental "deferred maintenance" with its own resources.

Except for smaller border communities and the colonias with low or nonexistent credit ratings, the wastewater collection and treatment situation in most U.S. border cities is less critical than in Mexico. Previous Clean Water Act federal grants and SRFs have provided substantial help to larger

border communities. However, smaller communities and the colonias cannot effectively use SRF loans in part because the debt service on 100 percent loans requires user fees beyond the current capacity of the residents to pay.

State and federal officials estimate that only one percent of the colonia population in Texas and approximately seven percent in New Mexico is served by sewer systems. Federal and state agencies estimate the total cost for implementing service to these areas at \$467 million in Texas and \$83 million in New Mexico 37 percent of the total U.S. border requirement for wastewater facilities.

Accelerate the approval and distribution process for currently available federal funding assistance (especially grants from the U.S. Department of Agriculture and Environmental Protection Agency) for residential water and wastewater hookups and mixtures assistance in colonias in Texas and New Mexico.

Expedite completion and expansion of funded wastewater treatment facilities and sewer lines. The Board notes that there are several facilities at more than 90 percent completion that could come on-line more expeditiously.

Increase community levels of awareness of available government assistance for basic infrastructure by establishing a federal-state-local clearinghouse network, in cooperation with the border offices of federal agencies, to provide more rapid transfer of information among levels of government and to local community groups in the incorporated and unincorporated areas.

This would be very inexpensive to implement quickly since these offices and staff already exist. The compendiums of federal, and later state, programs could also be provided to these clearinghouse sites.

Establish new mechanisms for providing federal assistance to projects that are partially privately funded, which is not currently allowed,

and encourage the NADBank to adopt flexible financial criteria for funding these types of projects.

The Board believes that funding is already available to implement many of the near-term recommendations above and should be maintained at least at current levels. New mechanisms need to be created, however, to facilitate private-public partnerships on all types of environmental infrastructure. Cutting grant funds for basic environmental infrastructure will badly exacerbate the existing discrepancies in income levels and potential for growth of the poorest and most vulnerable communities all along the border. Wherever possible, projects should be combined in regional efforts or "bundling" to maximize potential for private project financing.

Medium and Long-Term Actions

The Board supports the development of a comprehensive, cross-border transportation planning process as envisioned by the U.S.-MEXICO Joint Working Committee for Binational Transportation Planning. The Board strongly recommends that work be completed to bring this process into being at the earliest possible moment.

In the meantime, U.S. and Mexican states should be encouraged to develop cross-border transportation authorities to guide state transportation investments. Such joint planning is critical to the long-term sustainability of border economics and ecosystems.

The Board reviewed the materials provided by the U.S. Department of Transportation regarding projects planned or underway in the border states. The Board notes that many of the projects are new, particularly those dealing with cross-border planning of transportation infrastructure. Nevertheless, it is clear that a top priority for border development must be the establishment of a rational and binational transportation planning process. Upgrading of cross-border and border

area highways is essential to providing job opportunities and economic development.

We recommend that the responsible federal and state agencies work on an urgent basis to establish joint emergency response capabilities for dealing with accidents involving hazardous waste and hazardous materials on truck and rail routes in the border region. These efforts should be coordinated with Mexican agencies.

While we are aware that each of the individual states has responsibility for enforcing trucking safety standards, it would be clearly beneficial for the appropriate federal agencies in both countries to help coordinate and, where necessary, establish emergency response capabilities to deal with accidents involving cross-border traffic. Models for these kinds of arrangements exist between Michigan and Ontario, and between the cities of Detroit and Windsor. We also note that the U.S. Coast Guard and Mexican Navy have been cooperating for some time to deal with accidents at sea, although with limited funding to carry out emergency response drills.

We recommend that federal agencies continue to provide financial assistance and incentives for upgrading substandard housing in the colonias. Responsible federal agencies should work closely with state and local governments to establish mechanisms for the incorporation and "formalization" of the legal and institutional status of colonias.

The Board notes that the shortage of adequate housing underlies many of the border's environmental and public health problems. Several creative housing finance projects begun prior to the 1994 peso devaluation have been discontinued or dramatically downsized. Unfortunately, neither NADBank nor the BECC have the resources or the mandate to deal with the housing problem. The establishment of zoning practices, enforcement of zoning, and creative financing through public-private cooperation all need to be under-taken on both sides

of the border to ease this crisis.

The Board is aware of the difficulties faced by several federal agencies in attempting to deal with housing problems presented by unin-corporated colonia areas. We recommend that mechanisms currently being utilized by county officials to promote public housing and provide financial assistance to colonia residents be enlarged and structured as block grants, and that flexibility be provided to facilitate the combination of various federal program monies, such as those established through the Rio Grande Valley of Texas Empowerment Zone.

The U.S. Department of Housing and Urban Development (HUD) is urged to work closely with state agencies in the U.S., and with SEMARNAP and other federal and state agencies in Mexico to develop a mechanism for promoting low-cost public housing construction in the border region.

We recommend that the development of eco-industrial" parks along the border be facilitated to reduce pollution and costs.

Eco-industrial parks create a vertically integrated chain of plants wherein one plant uses another's byproducts or wastes as input. The parks create synergies among industries which can result in substantial cost-savings as well as significant reductions in environmental pollution.

We recommend that the responsible federal agencies accelerate ongoing work with the Mexican government to establish a secondary mortgage market that will bring home ownership within the reach of more Mexicans.

The Board recognizes that many of the environmental problems in the border area result from substandard housing and utility connections that can only be addressed if sufficient financial resources become available to Mexican citizens. Economic growth and border development will enhance the income earning power of border

residents.

ENVIRONMENT

The lack of a comprehensive, sustainable development plan for the border region and the failure to address border area problems through binational and regionally-based approaches have contributed to environmental and natural resources loss and degradation, public health problems, transportation and housing problems, poverty and inequality.

The lack of systematic coordination, communication and planning by all levels of government and the private sector on both sides of the border has resulted in missed opportunities to leverage programs and funds, limited and haphazard responses to problems, redundancy of programs, inefficient use of funding and lack of standardization of methods and procedures.

Many environmental problems in the region stem from the movement across the border of pollution and hazardous materials. Physiographic factors and a historical lack of environmental enforcement in Mexico have resulted, for example, in significant transboundary surface and ground water (aquifer) pollution, air pollution, use of highly toxic materials in industrial operations with limited consideration of environmental damage or worker safety, and the illegal movement and disposal of hazardous chemicals and wastes. Transboundary pollution problems have been exacerbated by a general lack of human, infrastructure and financial resources in Mexico; conflicting priorities both domestically and internationally; and disassociation between government power centers and the border.

Short-Term Actions

We recommend that federal agencies, BECC, NADBank, and other public and private funders incorporate sustainable development principles in planning or funding border environmental programs and projects.

Sustainable development can be defined as "meeting the needs of today without compromising our ability to meet the needs of tomorrow." The concept embodies equitable economic and social development without resource depletion or environmental degradation.

The Board commends the decision by the BECC to incorporate sustainable development criteria in its review process for proposed projects.

Environmental technology is also a vital component in advancing sustainable development by reducing risk, enhancing cost effectiveness, improving treatment process efficiency, and creating products and processes that are environmentally beneficial or benign. President Clinton's "technology

innovation strategy" can be described in terms similar to those guiding principles the Board has identified: (1) maximum consultation with stakeholders; (2) coordination with federal, state and local agencies; (3) collaboration with the private sector, nongovernmental organizations and academia; and, (4) aim for a cleaner, preventive technology rather than control technology to remediate existing pollution.

We recommend that federal agencies support and encourage local binational efforts towards cross-border environmental planning.

Binational efforts at the local level can be effective in addressing cross-border environmental problems if local bodies have both authority and resources at their disposal.

The Board recommends early formation of a binational air quality management basin (AQMB) for the El Paso-Juarez airshed. We urge accelerated negotiation and implementation of this AQMB with Mexico, its incorporation into the La Paz Agreement, and its use as a model for

application to other media.

We understand that the U.S. has recently entered into negotiations with the Mexican government for the purpose of establishing this AQMB. We strongly support this type of formal institutional approach to addressing binational environmental problems, in addition to our support for more informal, binational, community-to-community and state-to-state arrangements. The Board also recommends that this type of model be explored for its possible utility in addressing water, hazardous waste, health and other environmental problems along the border.

We recommend that the responsible federal agencies continue to improve the efficiency and reliability of the notification and monitoring process for hazardous materials transported across the border.

In the short-term, the Board believes it is essential to designate border crossings for commercial trucks carrying hazardous materials that avoid direct travel through communities, and to develop binational agreements for addressing emergencies that facilitate the rapid movement of emergency response teams across the border. An accident involving a hazardous materials transporter along the border could have serious environmental and health consequences. For example, trains transporting hazardous materials through Nogales, Arizona routinely stop next to the community's drinking water intake.

In the medium-term, we also recommend increased efforts to improve availability of emergency equipment at border crossings, development and testing of emergency response plans, improved tracking of cargoes prior to inspection, and thorough training of inspectors on both sides of the border.

We recommend that federal funding be continued at existing levels for infrastructure, health facilities and training in U.S. colonias for at least the next ten years. We also urge that efforts be made to

assist these communities in incorporating formally as independent political units, capable of self-governance and economic sustainability.

Funding currently available to address urgent environmental problems in colonias should be focused on low-cost, appropriate technologies that promote sustainable communities. Examples include solar water purification stills, alternative septic systems, and energy efficient housing.

As previously mentioned, the lack of adequate drinking water and sewerage has helped to create serious and unacceptable health hazards from third world diseases in colonias. Due to the implementation of NAFTA, the General Agreement on Tariffs and Trade (GATT), other economic incentives and increasingly robust economic development along the Texas-Mexico border, this phenomena is expected to increase.

The Board supports federal, state and local government efforts to take enforcement actions against developers of illegal settlements and to discourage their establishment.

Closer programmatic and funding collaboration among U.S. agencies, including the Departments of Commerce, Health and Human Services, Housing and Urban Development, Transportation, and the Environmental Protection Agency should be a top priority for addressing colonia infrastructure needs.

Short-term remediation is also critical. In many respects, low-technology alternatives are available and can turn settlements that degrade both the human spirit and environment into sustainable developments. This can be accomplished in ways that conserve limited water resources, such as using solar technologies to purify water and protect health, or alternative septic waste systems (tire shreds, constructed wetlands) for immediate waste treatment.

In view of the importance of limited water resources and the impact of contaminated water on border residents' health, we recommend that federal agencies develop and implement an

integrated, border wide and bilateral strategy for the use, reuse, and treatment of limited water resources. We also recommend that the appropriate agencies address the need for a comprehensive mechanism for protecting shared ground water resources.

A binational commitment should be made to increase existing capacity for water and wastewater treatment. Specifically, the U.S. government, in consultation with Mexico and binational entities, should develop a plan which identifies a sequential approach to bring needed new systems on line.

An annual report, identifying systems on line, under construction, and in planning and development, should be submitted to Washington and MexicoCity in order to track progress.

HEALTH

The relationship between the environment and public health is a serious issue for people living in the border region. Health problems which have been identified as having a relationship to environmental pollution include exposures to lead, arsenic, PCBS, pesticides, and other hazardous chemicals; gastrointestinal diseases, including cholera, shigella, amebiasis, salmonella, hepatitis A, B and C; tuberculosis; respiratory diseases; multiple myeloma and systemic lupus erythematosus (SLE); zoonotic diseases, such as rabies; vector-borne diseases, such as dengue and malaria; occupational health exposures; product safety issues including childhood ingestion of lead from ceramics, candy wrappers and toys; and fish contamination.

Environmental pollution at the border has not only affected the health of border residents, but also their mental well-being. The existing social services infrastructure at the border is not equipped to handle mental health needs or provide new support systems for victims of environmentally-related illnesses.

A number of these problems are not typically found elsewhere in the U.S. population and are more common to developing countries. Access to health care services at the border includes many unique issues requiring attention. Cross-border utilization of the health care system points to many issues affecting providers on both sides.

Native American nations at the border have not been consulted or included adequately in surveillance, planning or implementation of border health activities. Little is known about how environmental problems affect the health of Native American people along the border.

More effective binational planning, programs, infrastructure and institutions are critically needed to address health problems in the region.

Specifically, there is a need for:

- more surveillance and monitoring, especially in the areas of water pollution and hazardous waste as they impact the health of the public;
- immediate attention to the spread of tuberculosis, which has been diagnosed in identifiable geographic areas on both sides of the border;
- better health screening and diagnosis;
- better prevention and treatment;
- improved emergency planning and hazardous materials accidents response;
- more consultation and improved coordination with Native American nations, and for increased

monitoring, surveillance and evaluation of their environmental health;

- development of improved interagency coordination and innovative funding agreements among public agencies in order to achieve integrated approaches to solving problems. For example, improved binational processes are needed to facilitate standardization of data collection and analysis, and to eliminate red tape that restricts the flow of specimens, equipment and data across the border.

Short-term Actions

We recommend that U.S. Federal agencies work closely with their Mexican counterparts to address the unique public health issues of the border region. One option would be the establishment of the U.S.-Mexico Border Health Commission. Another option is to build on existing capacities like the El Paso Field Office of the Pan American Health Organization and its Secretariat role for the U.S.-Mexico Border Health Association, which plays a key role in promoting health activities through binational health councils.

The Administration should support and Congress should appropriate funds to implement the U.S. side of the U.S.-Mexico Border Health Commission. Alternative funding sources should also be explored for the Commission. While binational negotiations continue for Commission implementation, other implementation avenues should also be explored including expansion of the role of existing groups such as the U.S.-Mexico Border Health Association, the Pan American Health Organization (PAHO), the Interagency Coordinating Committee (established under an agreement between the Department of Health and Human Services and EPA), and this Board.

The U.S.-Mexico Border Health Commission's initial statutory charge, to conduct a comprehensive health needs assessment on both sides of the border, should be completed as soon as possible. This assessment should take into account work already done by PAHO, the Border Health Association, the U.S. Department of Health and Human Services and its Mexican counterpart, especially the binational Project CONSENSO process and 1991 report.

We urge that the responsible federal agencies be provided funds to continue to support border health training programs. High priority should be given to increased training in surveillance, epidemiology, and environmental health.

The U.S. Public Health Service and EPA should be directed to work with their Mexican counterparts to

develop a training program patterned on the Epidemiological Intelligence Service (EIS) of the U.S. Centers for Disease Control and Prevention. This program should train binational experts on the border and instill skills in surveillance, epidemiology, and clinical characteristics of human health problems resulting from environmental problems found along the border. This strategy is intended to return these experts to communities in order to develop regional capacity for improving health conditions on the border.

The Board encourages increased delivery of basic health education programs to communities by local and state health agencies, nongovernmental organizations and employers. These programs are needed to help advise residents on basic public health requirements and opportunities to reduce exposures, e.g., wash hands, put screens on windows, stack wood off the ground to prevent rat infestations.

The Board has been advised of sexual harassment and assaults at border crossings and encourages additional training of U.S. law enforcement personnel at border crossings to assure that cases of sexual harassment and assault are handled properly.

We recommend that federal agencies ensure the inclusion of Native American community representatives in border public health planning, particularly in light of perceived systematic exclusion from such decision-making.

A binational approach should be utilized which includes leaders from border Native American nations and appropriate federal agencies. Native American nations should be consulted as soon as possible by a working, group of federal and state agencies and nongovernmental organizations to identify problems experienced by indigenous peoples at the border, and resources should be directed to culturally appropriate solutions.

We recommend that federal and state agencies, in cooperation with local agencies and organizations, move quickly to implement a tuberculosis control program at the border.

Medium to Long Term Activities

A reexamination of the roles of public and private providers of health care is needed to identify possible areas for collaboration. Governments need to work in partnership with the private sector to ensure a properly trained workforce to attract business and adequate benefits to ensure a healthy work force.

We recommend that community-based, electronic, binational, environmental health surveillance systems be strengthened and expanded, with the goals of creating linkages and strengthening preventive interventions.

These systems should assure that information is available to health authorities and communities to help strengthen essential regulatory and enforcement authorities on both sides of the border. They should also assure that up-to-date information is available on movement of hazardous materials, and that the handling and disposal of hazardous materials complies with laws and regulations on both sides of the border.

We recommend that a truly binational clearinghouse on environmental and health data, research and resources be established.

This clearinghouse should allow border citizens to identify causes of health problems, explore approaches to addressing those problems, provide information on individuals and institutions with environmental and health expertise in the border area, and help influence health management policy decisions and resource allocations. The clearing house should link existing data bases not currently able to share information, and should be accessible through Internet and other information technologies.

OTHER RECOMMENDATIONS

We recommend that the Board's role in the development and implementation of the Border XXI Plan be clarified, and that provisions be made to coordinate our efforts with the Board's Mexican counterpart.

The Board requests reconfirmation of its designation as the primary advisory body on development and implementation of the binational Border XXI plan. We request that the Board be provided earlier and ongoing information to permit it to act in an effective advisory and review capacity with respect to Border XXI planning. The Board wishes to assist in the formulation of both binational and domestic plan structure and priorities, and in recommending measures for monitoring its implementation, including accomplishments in infrastructure project development.

We note that the Mexican government has recently named an environmental advisory committee that is a counterpart to the Board. The Board requests ongoing information on the activities of this committee. We are pleased to learn there is general agreement between the two national governments for the two advisory committees to meet in plenary session in the near future.

OTHER COMMENTS

The Board commends the decision by the Environmental Protection Agency to open a border liaison office at McAllen, Texas, in addition to its existing offices at El Paso, Texas and San Diego, California. The Board also commends the assistance of the Department of Agriculture in providing space and other support for the EPA staff at its McAllen, Texas office.

A number of members of the Board expressed adamant opposition to the addition of tariffs to border crossings. Noting the Administration's proposed fee

system in the proposed Fiscal Year 1996 budget, the federal agency members were silent on any Board recommendation to this effect. The following members expressed opposition to the imposition of any border crossing fees: Mr. Verduzco, Ms. Sierra, Mr. Merck, Mr. Williams, Mr. Hathaway, Ms. Hughes, Mr. Canez, Mr. Equihua, Ms. Saxod, and Ms. Diaz.

IMPLEMENTATION OF REPORT AND RECOMMENDATIONS

The Board appreciates the opportunity to offer these recommendations and respectfully requests a response to this first Annual Report. The Board intends to monitor implementation of the recommendations included in this Report, and to advise the President and the Congress on the status of implementation in its second annual report.